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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,180

12/04/2006

Ronald Waters

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EXAMINER

SIMONE, CATHERINE A

ART UNIT

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,180	Applicant(s) WATERS ET AL.	
	Examiner CATHERINE SIMONE	Art Unit 1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,12 and 13 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramarge et al. (US 2002/0100605).

Regarding claim 1, Ramarge et al. disclose an insulating structure comprising an elongate shank extending in a longitudinal direction (Figs. 4 and 5, shank 255), the shank being formed of a first insulating material, which includes the insulative material of the shank (Fig. 4, shank 255) and the coating (Fig. 4, coating 265), and having a first outer surface, and at least one shed (Figs. 4 and 5, shed 260) extending transverse to the longitudinal direction of the elongate shank, the at least one shed being formed of a second insulating material, which includes the insulative material of the shed (Fig. 4, shed 260) and the coating (Fig. 4, coating 265), and having a second outer surface, wherein at least a portion of the first outer surface of the shank is defined by a patterned texture including an array of substructures such as protuberances (Figs. 4 and 5, protuberances 265) which are formed in the first insulating material of the shank, and wherein at least a portion of the second outer surface of the at least one shed is defined by a patterned texture including an array of substructures such as protuberances (Figs. 4 and 5, protuberances 265) which are formed in the second insulating material of the at least one shed.

Regarding claim 2, Ramarge et al. disclose the shank having a circumference (Figs. 4 and 5, shank 255), and the array of substructures formed in the first insulating material of the shank being spaced around the circumference of the shank and longitudinally along the shank (Figs. 4 and 5, protuberances 265).

Regarding claim 13, from looking at Figure 4 of Ramarge et al., the array of substructures 265 that define the first outer surface of the shank 255 look as if they are arranged such that the surface area of the first outer surface is substantially constant per unit length along the longitudinal direction of the shank. Thus, the array of substructures that define the first outer surface of the shank in Ramarge et al. are deemed to be arranged such that the surface area of the first outer surface is substantially constant per unit length along the longitudinal direction of the shank

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramarge et al. (US 2002/0100605).

Ramarge et al. disclose the claimed insulating structure as shown above.

Ramarge et al. fail to disclose the substructures formed in both the first insulating material of the shank and the second insulating material of the at least one shed having at least one of a spherical, ellipsoidal, paraboloidal, hyperboloidal, conical and symmetric shape.

It would have been an obvious matter of design choice to change the shape of the substructures (protuberances) formed in both the first insulating material of the shank and the second insulating material of the at least one shed in Ramarge et al. to have one of a spherical, ellipsoidal, paraboloidal, hyperboloidal, conical and symmetric shape, since such a modification would have involved a mere change in the shape of the substructures. A change in shape is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. See MPEP 2144.04.

Allowable Subject Matter

5. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art of record, Ramarge et al. (Pub. No. US 2002/0100605), fails to anticipate or render obvious the distinct feature of “said array of substructures that define said first outer surface of said shank is arranged such that the surface area of said first outer surface has a defined variation per unit length along the longitudinal direction of said shank”, as recited in claim 14.

Response to Arguments

7. Applicant's arguments filed 5/3/2010 have been fully considered but they are not persuasive.

Applicants argue “In contrast, claim 1 of the present invention is directed to a patterned texture on the surface of the insulating structure wherein the patterned texture is formed by protuberances and concavities formed within the insulating material itself, rather than by depositing an additional layer of material on the outer surface of the shaft and/or shed to form a patterned texture (as in the case of the prior art). Specifically, Ramarge et al. discloses first and second insulative materials, with a third (hydrophobic) material applied to the outer surface of the first and second insulative materials. There is no disclosure in the prior art document of at least a portion of said outer surface of an insulating shank being defined by ‘a patterned texture including an array of substructures selected from protuberances and concavities which are formed in’ either the first or second insulating materials”.

This argument is not deemed persuasive. Again, the first insulating material forming the shank in Ramarge et al. includes both the insulative material making up the shank (Figs. 4 and 5, shank 255) as well as the coating applied thereto (Figs. 4 and 5, coating 265). Thus, the array of substructures (Figs. 4 and 5, protuberances 265) in Ramarge et al. are being formed in the first insulating material of the shank. Also, the second insulating material forming the at least one shed in Ramarge et al. includes both the insulative material making up the shed (Figs. 4 and 5, shed 260) as well as the coating applied thereto (Figs. 4 and 5, coating 265). Thus, the array of substructures (Figs. 4 and 5, protuberances 265) in Ramarge et al. are being formed in the second insulating material of the at least one shed. Accordingly, Ramarge et al. disclose a patterned texture

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formed by protuberances and concavities which are formed in the first and second insulating materials, as required by claim 1. As a result, claim 1 is anticipated by Ramarge et al.

Furthermore, Applicant's argue that "the Examiner has failed to establish a prima facie case of obviousness of claim 13".

It is to be pointed out that in Figure 4 of Ramarge et al. the array of substructures (265) defining the first outer surface of the shank (255) is shown to be arranged such that the surface area of the first outer surface is substantially constant per unit length along the longitudinal direction of the shank. Figure 4 might not show the array of substructures (265) defining the first outer surface of the shank (255) being arranged such that the surface area of the first outer surface is exactly constant per unit length along the longitudinal direction of the shank, but does show the array of substructures (265) defining the first outer surface of the shank (255) being arranged such that the surface area of the first outer surface is substantially constant per unit length along the longitudinal direction of the shank, as required by claim 13. Thus, claim 13 is unpatentable over Ramarge et al.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CATHERINE SIMONE whose telephone number is (571)272-1501. The examiner can normally be reached on Monday-Friday 9:30-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1783

/CAS/
Catherine A. Simone
Examiner, Art Unit 1783
June 24, 2010